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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,387	09/23/2003	Zheng Tan	IP-024170	2460

1726 7590 12/14/2004

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EXAMINER	
ALVO, MARC S	
ART UNIT	**PAPER NUMBER**
1731	

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/668,387	TAN ET AL	
	Examiner	Art Unit	
	Steve Alvo	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 9-2003
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-14 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over LINDAHL et al (4,599,138) in view of KEMPF (4,410,397).

LINDAHL teaches peroxide bleaching cellulosic fibers at a pH of 4.0 to 9.5 (column 3, lines 41-47) in reactor 20 followed by a refining treatment (16). LINDAHL et al teaches that heavy metals such as iron, manganese and copper have a catalytic effect on the decomposition of peroxide and the degradation of lignocellulosic material (column 1, lines 10-23). Although LINDAHL removes some of the heavy metals some remain which have a lower catalytic effect (se Table III, wherein mg/kg iron/wood remains in the wood pulp). KEMPF et al teaches certain metals such as manganese, copper and iron reduce pulp viscosities and are added to lignocellulosic material when producing pulp unsuitable for paper, but is well constituted for the production of viscose rayon or other cellulosic derivatives. It would have been obvious to the routineer to leave in the manganese, copper and iron or even add the metals to activate the peroxide if the desired product is viscose rayon. It is noted that the instant specification [0014] teaches that the present invention is applicable in the dissolution of pulp for viscose production. KEMPF further teaches that adding metal additives, tin, vanadium and titanium during peroxide bleaching at a pH of 1-7 retards the viscosity loss and degradation due to peroxide oxidation and minimizes consumption of peroxide (column 3, lines 10-17 and column 4, lines 2-6) and activates the peroxide's selective oxidative attack on the lignin (column 4, lines 41-44). It would

have been obvious top the artisan to add the metal additive of KEMPF to retard the viscosity loss and degradation due to peroxide oxidation and minimize consumption of peroxide and activate the peroxide's selective oxidative attack on the lignin during the bleaching of LINDAHL et al. The products of KEMPF and LINDAHL et al are paper products which is one of the disclosed products of Applicant [14]. See KEMPF, column 3, lines 62-68, for using a temperature of 40 to 120 ^{O}C; for a time of ½ to 8 hours at a consistency of 0.1 to 20%. KEMPF as LINDAHL et al could be a combination of chemical and mechanical treatments (column 1, lines 35-39). LINDAHL teaches that the process applies to both softwoods and hardwoods (column 5, lines 14-15) and results in a satisfactory product when either is used. It would have been obvious that after the process of LINDAHL, they can both be used to make paper and are thus substantially the functional equivalent. See LINDAHL, TABLES II, IV and VI for Canadian Standard Freeness (CSF) within the claimed range.

Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over LINDAHL et al (4,599,138) in view of KEMPF (4,410,397) as applied to claim 1 above, with or without PITKANEN et al (6,436,238).

LINDAHL et al teaches treating both hardwood and softwood to make a pulp having the desired properties to be made into paper. It would have been obvious to use a mixture of the softwood and hardwood as they both are treated to have paper making properties. If this is not obvious, then using a mixture of softwood and hardwood to make paper is taught by PITKANEN et al, (see claim 14 of PITKANEN et al). It would have been obvious to use a mixture of softwood and hardwood pulp to form the paper of LINDAHL et al in the manner taught by PITKANEN et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Alvo whose telephone number is 571-272-1185. The examiner can normally be reached on 5:45 AM - 2:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steve Alvo
Primary Examiner
Art Unit 1731

msa